VALLEJO SANITATION AND
FLOOD CONTROL DISTRICT

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September 9, 1999

State of California Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130

Attention: Mr. Todd Thompson,

Subject: Draft Environmental Impact Report (DEIR) For General Waste Discharge Requirements For Biosolids

Vallejo Sanitation and Flood Control District has several concerns with the proposed General Order (GO) for Waste Discharge Requirements for the Discharge of Biosolids to Land for Use in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities in California. Since 1977, the District has responsibly applied biosolids. As the attached article explains, this has benefited not only the District but the private sector farmer as well. We are concerned about the possible adverse impacts of the GO on this long standing relationship. 18-1

Background:
Vallejo Sanitation is a Special District in Solano County that was created by act of the State Legislature in 1952 for the express purpose of treating and transporting sanitary sewage as well as storm water. As a part of its operation, the District has land applied lime stabilized biosolids for the past 22 years. All biosolids have been applied to District owned property called Tubbs Island which includes approximately 1,500 tillable acres immediately adjacent to the North San Pablo Bay in Sonoma County.

Prior to the EPA issuing the regulations for sewage sludge (40 CFR503) the District's biosolids spreading activities were regulated through the San Francisco Bay Regional Water Quality Control Board. Under the direction of the Regional Board the District was required to implement a comprehensive monitoring program to test the soils, ground water, drainage water, receiving waters, and crops grown on the island. During the 15 years that the monitoring program was in place, no negative effects were ever indicated on the property. Instead it was determined that the application of biosolids had improved the conditions on the island. 18-2

In recognition of its efforts to promote environmentally acceptable utilization of sewage sludge, the District received the EPA Award for the best example of a lime stabilized land application operation in the nation in 1990. The Tubbs Island project continues to be an example of utilizing a valuable by-product that would otherwise go unused if deposited at a sanitary landfill. 18-2 (cont)

Issues Surround the Proposed GO
Generally speaking, the District agrees with the GO intent of improving the handling and management of biosolids, however, the manner in which the GO approaches this objective concerns the District. The following are the District's concerns:

We question the need for a regional enforcement framework since the District's project is already locally regulated and must conform to the EPA 503 regulations. Established through extensive risk-based evaluations, the EPA sewage sludge regulations clearly cover all issues related to safety for the general public. Adherence to these regulations establishes the greatest margin of safety possible, thereby promoting self implementation. 18-3

The GO contains a provision requiring that annual fees be assessed for each application site. Public agencies are currently having difficult times with additional fees as the public is becoming more and more resistant to fee increases. Additional fees represent an unreasonable burden to the District's constituency, especially when we already have a layer of enforcement at the Federal level performing to the same function that this GO is purporting to do. 18-4

Leak proof vehicles for transporting biosolids do not need to be covered. The rational for covering certain types of vehicles has been to provide safety for the surrounding drivers from damage that could be caused by rocks, etc., dewatered biosolids are generally not dry enough to blow off a vehicle. Furthermore, the California Vehicle Code already establishes requirements for materials transportation. 18-5

Biosolids can not always be spread within 7 days of storage. Biosolids generated by the District may be stored on Tubbs Island for up to eleven months as our site is a one crop operation, all solids are applied once a year between the months of August through October, the crop is planted, grown, and harvested between the months of November through August. Considering this type of operation, which is not unique to the District, there is absolutely no way to spread biosolids within 7 days of storage. Furthermore, spreading biosolids as proposed in the GO represents extremely poor management practices by mandating the application of biosolids during wet weather when the potential for nutrient laden runoff is at its greatest. 18-6

Each year the District stores approximately 30,000 cubic yards of lime stabilized biosolids in an impermeable storage pad 1,200 feet by 300 feet. Rain water is removed immediately from the storage area by a pump which directs it to a nearby field. Removing the water as soon as it accumulates ensures that nutrients and potential pollutants are not leached from the biosolids. This method has been proven to be efficient and there are no adverse impacts associated with it. The requirement to cover an area the size of our current storage pad would be an expensive and unnecessary undertaking with no real benefit. 18-7

Monitoring at sites where the depth to groundwater is less than 25 feet is unreasonable. The calculations employed to determine biosolids application rates are designed to provide plant available nutrients for production of a single crop, taking residual nutrients into account. Studies indicate that this approach is rather conservative since actual nutrient uptake may be much greater, suggesting that when properly applied biosolids will not result in the introduction of nutrients to groundwater. Over 15 years of groundwater testing at the District's application site supports this conclusion. 18-8

The District appreciates the opportunity to comment on the proposed GO and looks forward to working with your agency to develop reasonable guidelines that will satisfy the fundamental requirements established by CEQA. Please feel free to contact Daniel Tafolla, Environmental Services Director if you have any questions of comments related to this letter.

VALLEJO SANITATION AND FLOOD CONTROL DISTRICT

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IN THIS ISSUE:

EPA's Sludge Award Goes to Vallejo Sanitation

by Ronald Matheson, Plant Superintendent

Vallejo's Tubbs Island Sludge Project

The Vallejo Sanitation and Flood Control District recently received the first place award for large treatment plants in the operating projects category of the EPA's 1990 National Sludge Use awards program. The District was formed in 1952 to operate and maintain the sanitary and storm water systems for the City of Vallejo and parts of Solano County.

Treatment Facility

The sewage treatment facility has a dry weather design flow of 12.5 mgd, wet weather flow of 30 and is currently under construction to increase wet weather capacity to 60 mgd.

The District now processes 12 mgd. The liquid stream consists of bar screens, grit removal, sedimentation, trickling filters followed by short term aeration (trickling filter/solids contact system) and clarification.

The raw sludge and waste activated sludge is blended in a gravity thickener where the pH is elevated to 12 by the addition of lime slurry in order to stabilize the sludge. The District currently uses two types of lime slurry for this purpose; waste lime slurry generated from acetylene production, and slaked lime produced by dissolving quicklime. Using slaked lime for this process costs $100 per dry ton plus the cost associated with the high maintenance of lime slakers. The District prefers to use the waste lime slurry as the primary source of lime because the cost is approximately $50 per dry ton, and at the same time, a resource that would otherwise have to be disposed of as a hazardous waste is being recovered. The waste lime slurry is obtained from several acetylene production plants on a contract basis.

The thickened sludge is dewatered using vacuum filters and ferric chloride as a conditioning chemical. Approximately 30,000 cubic yards per year are produced and utilized in the District's sludge application project.

Tubbs Island Project

The sludge application project began in 1977 as a pilot project using a 400 acre test field on a farm in Sonoma County called Tubbs Island. The sludge applied was lime stabilized sludge generated from the secondary treatment process which, at that time, consisted of a physical-chemical process using lime, carbon dioxide, carbon adsorption and filtration.

The land application project was developed in cooperation with the Regional Water Quality Control Board, San Francisco Bay Region and Sonoma County. The RWQCB and the Sonoma County Solid Waste Board worked with the District in the early stages to develop the criteria for monitoring the project, as there was not a lot of background information available at that time.

Over the next few years, an increasing amount of land was utilized as we gained experience with application rates and monitoring changes in soil quality. Because of the success of the pilot project, the Board of Trustees viewed the project as an opportunity to secure a long-term solution to the District's sludge disposal concerns. The decision was made to purchase the entire lower Tubbs Island property in 1982 for $1.6 million.

The current estimated life of Tubbs Island is approximately 140 years based on cadmium loading limitations that are currently in effect. This project is the largest of its kind in California.

Tubbs Island is composed of 1850 acres located between Highway 37 and the edge of the North Bay of San Francisco Bay and is bordered on the west by a U.S. Fish and Wildlife Services nature conservatory. Of the 1850 acres, 1500 are tillable with the balance being composed of roads, levees and drainage ditches.

This project was a particularly good match from an agronomic point of view as the pH of the soil ranged from 3.5 to 4.5 prior to sludge application. The application of the sludge has increased the pH of the soil from 6.5 to 7.5. This change has allowed the tenant farmer to shift the crops of oat hay, kanota oats and silage to a higher revenue crop of wheat. Currently, wheat is grown on half of the island.

We have also seen the benefit of the application of the sludge from reports by the local mosquito abatement district that indicate they are able to maintain a viable population of mosquito fish for control in the ditches. Prior to the project, the fish would not survive in the low pH environment.

VSFCD staff perform all sampling of test wells, ditches, soil, and crops to assess the fate of heavy metals. They also determine the proper spreading rate of the sludge based on available nitrogen in the sludge vs. the ability of the crop to utilize the nitrogen. The goal is to slightly underload the crop so there is less likelihood that we will experience runoff.

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Vallejo staff performs all sampling to determine spreading rate.

President's Message
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Board's evaluation and direction. We now have new budget forms and a budget review process so that various services will be placed on pay-as-you-go basis rather than as a deficit subsidy. We should all be appreciative of the efforts and potential created by the dynamic-duo team of Mike and Linda in meeting their short-term goals and beginning the foundation for the long term.

BULLETIN

One of our goals was to review the existing *BULLETIN* for changes in format and the use of sub-editors for our various committees and training source updates. This was begun with the October issue and is being further updated in this and future issues. What do you think of the new printing format and the vivid use of colors to spark and delight your visual senses? We have encouraged Linda and her staff to use their poetic license and expression to bring forth an enjoyable and informative *BULLETIN* for your use and reference. They have accepted the challenge and I believe are justifying the professionalism of this publication. I know they would welcome your comments, both positive and negative, so don't hesitate to let them know what you think.

Public Relations

By this time, we should be getting out to each section an agenda for establishing one local meeting per year devoted to public relations and/or public education. Your Southern and Northern Regional Chairs, John Morris and Warren Tellefson, will be following this up with a draft of a PR Manual for section use. John has already placed into the works a modification for our Pasadena Annual Conference to encourage public interest and the media. These are new waters for us, but thanks to John Morris and Bob Barletta (your Pasadena conference chairs) and their intuitive concepts for a presentation "a-la-mode," we are looking forward to a challenging format.

Education & Training

The draft of the math workbook is now ready for Board review and the preview given me by Don Proctor dispels the prior concept that mathematics instruction is usually dry and ho hum. Don has a talent for bringing things down to earth and supplying just enough humor and folklore to keep us learning.

A video tape is also now available as an introduction to mathematics which was prepared by your VCP Committee and has been reviewed and blessed by Tom Welch. Thanks and pats on the back to Tom and his volunteers.

In this issue, you shall also find the availability of various study courses. we hope to bring you periodic updates so that your horizons for advancement remain unlimited.

And, if this isn't enough, let me remind you that the new revisions for the study manuals in the VCP disciplines of Collection System, Mechanical Technologist, Industrial Waste Inspector, Electrical/Instrumentation and Laboratory are now all available through our CWPCA office.

Constitution and Bylaws

This month your Board will receive and authorize the final printing of our Association's revised Constitution & Bylaws. This detailed and very thorough update was spearheaded by Mike Hogan and Ron Young to whom we all owe a debt of gratitude. This chore had previously been put on the back burner, not because it wasn't important, but rather for the lack of someone to bite the bullet and do it. Our new Constitution & Bylaws will have to be approved by the membership at our next scheduled business luncheon meeting during the Annual Conference in Pasadena, before they will become effective.

Training Conference

Our Northern and Southern Regional Training Conferences continue to get more technical and noteworthy programs and better attendance each year. This year's Northern Regional Conference at San Jose and the Southern Regional Conference at Palm Springs were no exception, breaking all prior records.

Our thanks to the Santa Clara Section's Gary Lee and his entire ensemble for orchestrating a terrific and memorable training and location session. And, the same to the CORBS' Ken Boyd and his volunteers for a record breaking and successful event in everybody's hometown---Palm Springs.

Operations Challenge

And, last but not least, our support and congratulations to our California teams who participated in the WPCF Operations Challenge at their annual conference in Washington, DC, this past October. We have indeed established a record for being "king of the mountain" for the past two years in this competition in which EBMUD has reigned as "numero uno." This year, we again walked away with honors in which the Bashers took the "silver" and another California team, "The Raging Reclaimers" from Irvine Ranch Water District, locked onto the "bronze." A commendable showing was also made by the "Hyperion Torpedoes" from Los Angeles. The competition is really getting quite keen with 34 teams from all over the USA showing the stuff of which they are made. We are proud of our teams and just wait until next year!

Your CWPCA membership was well represented at the WPCF conference which boasted a record 13,000 registrants. It is rewarding to see a good number of our Directors and members actively participating in Federation committees and functions. There is no doubt that California is not only the largest member association with its 3500 WPCF members, but we are also influential and well respected within the WPCF, due to our united and progressive attitudes.

George Ohara, Jim Brisco and yours truly are looking forward to sharing the honor of being at your respective installations and let's remember to meet for the "Pasadena Rose" in April 91. Till next time...Ciao.

EPA Sludge Award Goes to Vallejo Sanitation
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nitrogen into the waterways.

Summary of Project Benefits:

1. Annually, the District uses approximately 1.5 million gallons of potentially hazardous waste and 30,000 cubic yards of sludge in a manner that is useful to the environment rather than taking up valuable space in shrinking landfills.

2. The project saves the District rate payers between $600,000 and $800,000 per year at 1990 landfill rates. Prior to purchasing the property, the District paid $2 per cubic yard for the privilege of spreading the sludge.

3. The District receives a revenue from the sale of crops that in 1990 exceeded $114,000.

4. The project has complied with all Federal, state and local regulations since its inception. The project was featured in the new WPCF Manual of Practice "Beneficial Use of Waste Solids." The project was also featured as a demonstration project at the WPCF conference in San Francisco in October 1989 as an example of beneficial use of sludge.

Responses to Comments from the Vallejo Sanitation and Flood Control District

18-1. The commenter's concern regarding the effects of the proposed GO and the agency's land application program are noted.

18-2. This comment provides information on the District's biosolids land application program. No response is required.

18-3. The commenter's opinion regarding the need for regional enforcement of biosolids land application (since the commenter's project is already locally regulated and must conform to EPA's Part 503 regulations) is noted. Land application of biosolids is regulated by Part 503 regulations. However, in California, no single state agency regulates the land application of biosolids. On September 12, 1997 the Superior Court judge ordered the SWRCB to prepare a statewide EIR for land application of biosolids. Please also refer to Response to Comment 18-4.

This proposed GO is not intended to regulate every biosolids application site in the state. The need for a waste discharge requirement is assessed on a case-by-case basis and determined by the RWQCBs. Undoubtably, some sites will be permitted using the GO waste discharge requirements. Others will continue with site-specific waste discharge requirements or will be regulated by the local enforcement authority without a state waste discharge requirement being issued.

While Part 503 regulations address many factors necessary for human, plant and animal health, it does not necessarily address all issues. Unaddressed matters include transportation, storage, wind, animal feed grazing, and nuisance issues. Also see Master Response 2.

18-4. The level of regulation afforded by the proposed GO goes beyond what is occurring at the federal level. Although Part 503 regulations is the baseline for the proposed GO, the State is taking a more cautious approach to ensure that adequate protection of its resources will be achieved. Such steps require that the State be able to fund oversight activities and ensure compliance. The costs of those activities should be borne by the land application proponents, not by the entire population of California. Annual fees serve that purpose.

18-5. Section 13274 of the California Water Code requires the SWRCB or RWQCB, in issuing general waste discharge requirements, to "include provisions to mitigate significant environmental impacts, potential soil erosion, odors, the degradation of surface water quality or fish or wildlife habitat, the accidental release of hazardous substances, and any potential hazard to the public health or safety." Biosolids blowing from vehicles during transportation may adversely affect the public's health. As such, it is within the scope of this project.

18-6. The proposed GO does not require that the discharger apply biosolids continuously or in wet weather. The order requires that biosolids not be stored at application sites for more than 7 days, unless the discharger has been issued separate general waste discharge requirements or a waiver for the storage operation. It is understood that, in most cases, biosolids require storage at some location. However, to avoid nuisance conditions, that location should not be the application site unless the above requirements are met.

18-7. Covering short-term storage facilities does more than halt leaching of nutrients from biosolids designated for use, although it does minimize runoff from piles and any potential leaching. Because covering the piles also minimizes dust, covers are now required for biosolids piles placed onsite for more than 24 hours, to address air quality issues. The text of the proposed GO, as found in Biosolids Storage and Transportation Specifications No. 6 of Appendix A, has been added to read:

> Biosolids placed onsite for more than 24 hours shall be covered.

18-8. Degradation of groundwater at sites in compliance with the proposed GO is not anticipated. However, groundwater in close proximity to the ground surface does have a higher chance of being affected than sites without such conditions. For that reason, groundwater monitoring is required for sites where biosolids operations are proposed for multiple applications (see Master Response 15). Such monitoring is intended to ensure application of biosolids at the agronomic rate.